

Applicants: Sung-Kyu KANG and Hyun-Dong SHIN
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Amendments to the Claims:

Please amend claims 6 and 11, and cancel claims 7-10 as follows:

1. (Withdrawn)
2. (Withdrawn)
3. (Withdrawn)
4. (Withdrawn)
5. (Withdrawn)
6. (Currently amended) A method of low-temperature catalytic gasification of a refined biomass fuel, comprising:

a fuel supplying step of supplying a refined mixture including biomass organic waste, coal, and heavy oil to a middle portion of a gasifier using a screw feeder;

a catalytic circulating fluidized-bed gasification step of drying, volatilizing, low-temperature catalytic gasifying, and partially burning the fuel using hot air and superheated steam in the presence of a catalyst, the catalyst of which is selected from the group consisting of natural limestone, lime magnesite, caustic lime, an alkali earth metal including calcium, magnesium or barium and oxides thereof, an alkali metal including potassium and oxides thereof, alumina, and

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mixture thereof, each of which is provided in particles or coarse powders suitable for fluidization;

a collecting step of collecting fly ash in the gas generated in the catalytic circulating fluidized gasification step;

a catalyst reforming step of reforming the gas through a lower layer of fixed adsorbent bed and reforming tar-nitrogen, aromatic-nitrogen, phosphorous and sulfur through an upper layer of fluidized catalyst bed with spraying steam onto the lower portion of the fixed adsorbent bed to accelerate reformation and prevent the pipe from clogging, so that a reformation temperature is 650°C or less, and converting hydrogen sulfide into CaS and phosphorous into $\text{P}_\alpha\text{H}_\beta\text{S}_\gamma\text{Halogen}_\delta$ ($\alpha=1-7$, $\beta=0-5$, $\gamma=0-7$, $\delta=0-7$), to be chemically adsorbed into the fixed absorbent bed;

a heat exchanging step of cooling the gas to 200°C or less and transferring condensed liquid to a tar-storing bath;

a tar scrubbing step of condensing non-converted tar or non-condensed liquid to be recovered, and gas stripping the condensed liquid; and

a gas-storing step of compressing the gas to be stored temporarily.

7. (Canceled)

8. (Canceled)

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9. (Canceled)

10. (Canceled)

11. (Currently amended) The method according to claim 6, wherein the fluidized catalyst of the fluidized catalyst bed ~~(42)~~ used in the catalyst reforming step is a single metal, including Ni, Fe, Co, Mo, Mn, Zr, Ti, Ce, Ru, Rh or Pt, and oxides thereof, or mixtures thereof, which functions to decompose tar by gasification and convert aromatic-nitrogen or HCN into an alkane compound or an alkene compound and NH_3 .